

Table 2. Chief complaints by site (spring and winter combined)

Chief complaint	ER		HMO		PGP		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Respiratory	83	19	268	29	160	46	511	30
Fever	100	23	201	22	64	18	365	21
Gastrointestinal	93	21	178	19	36	10	307	18
Skin, infectious disease	39	9	102	11	26	7	167	10
Trauma	57	13	38	4	23	7	118	7
Irritability and miscellaneous	20	4	74	9	19	6	113	7
Neurological and psychological	16	4	33	4	9	3	58	3
Ingestions, foreign bodies	25	6	4	0	4	1	33	2
Genitourinary	11	2	15	2	6	2	32	2
Total	444	100	913	100	347	100	1,704	100

were more frequent during the summer. Once again, however, the five most common complaints in the combined surveys were the most common in each of the three seasons.

In 51 percent of all encounters, the caller focused on one complaint. A second complaint within the same

general category (for example, nasal congestion and cough) was reported by 12 percent, 23 percent reported fever and one other complaint. Only 14 percent of the callers reported two complaints referable to different symptom complexes. In sum, 86 percent of the calls related to a single category of illness, alone or associated

Telephone Triage: Time for the Bell to Stop Tolling

Despite the public health significance of telephone triage—up to one-third of all medical encounters (1)—there has been little investigation in this field. Perhaps this gap results from the fallacious assumption that primary care providers will automatically acquire expertise at telephone triage since they spend up to 3 hours of their working day doing it (2). An analogy can be drawn to many house staff training programs that, until recently, did not formally teach primary care. It was reasoned that if the physician could learn tertiary care, then surely adeptness at primary care, a lesser activity, would naturally ensue.

What is known about telephone triage can be summarized as follows:

1. When protocols are not used, most health care providers show serious deficiencies (3-5).
2. The level of medical knowledge or length of experience in performing primary care is not correlated with level of performance (4-6).
3. Mid-level health workers such as nurse practitioners are as good as, if not better than, physicians (6).
4. There is enormous variation in physicians' behavior on the telephone (7).
5. Protocols are safe, practical, and can be used by most health care providers (8).

What contribution is made by the accompanying paper, "Survey of Telephone Encounters in Three Pediatric Practice Sites"? The descriptive data provide the framework for

the development and validation of protocols (9,10) covering the great majority of calls about illness. Since the nature of calls was similar in three diverse practice settings, the feasibility and generalizability of this type of telephone management system was thus established. As with process-oriented medical audits, however, the protocols would need to be adapted to conform to local standards of medical practice.

Most workers feel that the use of protocols is the best way to achieve appropriate telephone medical advice and disposition. Secondary advantages of quality assurance monitoring, medical recordkeeping, and education are apparent. Yet, protocols are not a panacea. There will always be calls for which a protocol has not been written. Then, the problem of suboptimal triaging recurs, because high-quality triaging requires the combination of medical knowledge, interviewing skills, and patient education skills. The latter two are quite difficult to learn or to teach.

With or without protocols, it is crucial to ascertain that the caller understands the instructions, since avoidable morbidity occurs all too often when the instructions are vague or unclear. Courts recognize the liability of any provider who gives inappropriate or insufficient advice. While failure to document all recommendations is not, in itself, sufficient cause for litigation, it may become an important factor in such an action. In addition, patients often misunderstand or do not hear what they are told.

This paper raises several questions, such as why "30 per-

with fever. These findings underscore the potential utility of simple guidelines for telephone management, oriented to common chief complaints and including assessment of fever.

Dispositions. Of all the callers to all sites, 30 percent were advised to have their children seen by a physician. Disposition was related to type of complaint; only one-sixth of the calls related to allergy led to advice that the child be seen, while one-half of the children with neurological or psychological complaints were asked to come in. Providers in the prepaid group practice were less likely to advise medication than providers in the other two sites, but when they did suggest medication they were more likely to mention drugs that require prescriptions. In 7 of 10 calls, no medication was prescribed.

In the ER, where calls were handled by many different staff members, there was little variation by type of provider. Physicians and nurses spent the same amount of time talking to patients (about 2 minutes). There

were no differences by provider distributions of chief complaints or dispositions (treat children at home, bring children in, or refer callers to another medical facility). Nurses (18 percent) consulted with another provider more frequently than physicians (7 percent) and suggested medication less frequently (23 percent) than physicians (32 percent).

The ER staff often failed to obtain essential baseline information, regardless of who handled the telephone encounter. In 46 percent of the calls to the ER, the age of the child was neither offered by the caller nor elicited by the provider. In some instances, advice was given without adequate information. For example, antipyretics were prescribed for a 4-month-old infant with "high fever" without ascertaining the height of the fever or possible causes of it. Several anecdotes illustrate the somewhat cavalier management of potentially serious complaints:

1. The mother of a 2-month-old infant, with previously diagnosed pneumonia who had "trouble breathing and a high fever," was told to use nose drops.

cent of all callers to all sites were advised to have their children seen by a physician" when the literature predicts fewer visits for patients followed in primary care settings (7). Questions that other studies should address include:

1. Is reliability of information more accurate in higher SES groups?
2. How can the proxy use of the caller's eyes, nose, and ears be made more reliable?
3. How can one ascertain that the caller understands the advice given?
4. Is the level of understanding inversely correlated with the severity of the perceived problem?
5. How does telephone protocol-based advice compare with self-help or self-treatment books?
6. Is the nature of the telephone encounter, including disposition, different in pediatrics than in other specialties? If so, does it need to be?
7. Are protocols the best way to reduce unnecessary patient visits and safeguarding against too few?

There is a need for further clinical and health services research in this field. One hopes that the past attitude among potential investigators of "don't call me, I'll call you" has been laid to rest.

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